

OWLS 2018 Programme

Sunday November 25

Time	
17.00 - 18.00	Registration <i>Karma Rottnest Reception Lobby</i>
18.00 - 19.30	Dinner <i>Riva Restaurant</i>
	Evening Session <i>Karma Conference Centre</i> <i>Chair: Prof David Sampson</i>
19.40 - 20.10	Visualising Mechanics of Epithelial Growth and Folding Prof Xavier Trepas, Institute For Bioengineering Of Catalonia, Spain
20.10 - 20.40	Wider, Faster, Deeper: New Directions for Wide Field Imaging Prof Kishan Dholakia, University of St Andrews, UK

Monday November 26

Time	
	Morning Session 1 <i>Karma Conference Centre</i> <i>Chair: A/Prof Giuliano Scarcelli</i>
8.15 - 8.45	Long-Term and Reference-Free Measurements of Cellular Forces Prof Malte Gather, University of St Andrews, UK
8.45 - 9.15	Optical Sensing of Hemostasis and Blood Coagulation A/Prof Seemantini Nadkarni, Harvard Medical School, USA
9.15 - 9.45	Probing the Mechanical Properties of Living Organisms at High-Resolution using Light Dr Robert Prevedel, EMBL Heidelberg, Germany
9.45 - 10.15	Interpretation of Brillouin Light Scattering Measurements in Biological Samples Dr Kareem Elsayad, Vienna BioCenter Core Facilities, Austria
10.15 - 10.30	Morning Tea

	<p>Morning Session 2 <i>Karma Conference Centre</i> <i>Chairs: Prof Kishan Dholakia & Prof Virgile Viasnoff</i></p>
10.30 - 11.00	<p>Image Scanning Microscopy: The New Confocal Microscope Prof Colin Sheppard, University of Wollongong, Australia</p>
11.00 - 11.30	<p>Novel Plasmon-Enhanced Raman Platforms for Ultra-Sensitive Recognition of Neurodegenerative Proteins Prof Roberto Pini, National Research Council, Italy</p>
11.30 - 12.00	<p>Laser Applications of Biomaterials in Cardiac Optogenetics Prof Alexander Heisterkamp, Leibniz University Hannover, Germany</p>
12.00 - 12.05	Group Photo
12.05 - 12.40	Lunch
12.40 - 17.00	<p>Break and Delegate Activities (Bookings Required)</p> <p>Bayseeker Island Bus Tour Departs: 13.45 Rottnest Island Settlement Main Bus Stop Finishes: 15.30 Rottnest Island Settlement Main Bus Stop</p> <p>Rottnest Island: Ship Wrecks & Coral Viewing Tour Departs: 14.00 Finishes: 15.00</p>
17.00 - 18.00	<p><i>Poster Session</i></p> <p>3D+T Spatio-Temporal Image Correlation Spectroscopy for Flow Mapping of Molecules and Organelles in Live Cells Dr Elvis Pandzic, The University of New South Wales, Australia</p> <p>Application of label-free 2-photon Fluorescence Lifetime Imaging Microscopy to Measure Endogenous Melanin Profiles in Human Eye Melanoma Mr Ephrem Sitiwin, The University of New South Wales, Australia</p> <p>Application of Quantum Dots for Tear Film Lipids Imaging Dr Maitreyee Roy, The University of New South Wales, Australia</p>

Development of an Optical Fiber Fabry-Perot Pressure Sensor for Bio Medical Applications using Focused Ion Beam Technology

Mrs Chalani Abeywardena, University of Nottingham, UK

Does the Selective Wavelength Filtering of Commercially Available Blue Blocking Lenses Affect Physiological Adaptation and the Recovery of Light Sensitivity to Changes in Ambient Illumination?

Mrs Hind Alzahrani, The University of New South Wales, Australia

Early Caries Detection by Depolarisation Imaging Based on Polarisation-Sensitive Optical Coherence Tomography

Mr Jonas Golde, TU Dresden, Germany

Extended Depth of Focus in all-fiber Quasi-Bessel Beam Probes: Theory and Practice

Mr Michael Hackmann, The University of Western Australia, Australia

High-Resolution Fiber-Optic Probes for OCT using an Inverted Axicon

Ms Gavrielle Untracht, The University of Western Australia, Australia

In Search of Shear Waves in Vitreous Humour Phantoms using Frequency Analysis on Optical Coherence Elastography Data

Ms Magdalena Urbanska, The University of Auckland, New Zealand

In-Situ Quantification of Cellular Nuclear Mechanics with Brillouin Flow Cytometry

Mr Jitao Zhang, University of Maryland, USA

Label Free Imaging with Super-Resolved Ptychography

Dr Nicholas Anthony, Istituto Italiano Di Tecnologia, Italy

Label Free Identification of the Granulocytes Enhanced by Machine Learning

Mr Roopam Gupta, University of St Andrews, Scotland

18.15 - 19.30

Dinner

Riva Restaurant

19.40 - 20.00	OWLS Member Assembly <i>Karma Conference Centre</i>
	Plenary Session <i>Karma Conference Centre</i> Chair: Prof Alberto Diaspro
20.00 - 21.00	Comprehensive Correlation Analysis (CCA) for Super-Resolution Dynamic Fingerprinting of Cellular Compartments using the Zeiss Airyscan Detector Prof Enrico Gratton, University of California Irvine, USA
21.00 - 21.30	Spontaneous Fluctuations can help find Ligands for Intrinsically Disordered Proteins Prof Sudipta Maiti, Tata Institute of Fundamental Research, India President of the next OWLS Meeting

Tuesday November 27

Time	
	Morning Session 3 <i>Karma Conference Centre</i> <i>Chairs: Prof Alexander Heisterkamp & Prof Roberto Pini</i>
8.15 - 8.45	Structural and Functional Imaging of Tissues with Optical Coherence Tomography/Elastography Prof Kirill Larin, University of Houston, USA
8.45 - 9.15	Functional OCT Microscopy of the Peripheral Nerve A/Prof Ben Vakoc, Harvard Medical School, USA
9.15 - 9.45	Polarisation and Chromatic Dispersion to Detect Early Signs of Non-Communicable Diseases using Optical Coherence Tomography (OCT) Dr Frédérique Vanholsbeeck, University of Auckland, New Zealand
9.45 - 10.15	Retinal Imaging with Optical Coherence Tomography and low-loss Adaptive Optics using a 2.8-mm beam size A/Prof Barry Cense, University of Western Australia, Australia
10.15 - 10.30	Morning Tea

	<p>Morning Session 4 Karma Conference Centre Chair: Prof Katarina Gaus</p>
10.30 - 11.00	<p>Optical Tools to Understand Eye Structure and Biomechanics A/Prof Ian Sigal, University of Pittsburgh, USA</p>
11.00 - 11.30	<p>Computational Microscopy of Structural Order without Label Dr Shalin Mehta, Chan Zuckerberg Biohub, USA</p>
11.30 - 11.50	<p>Detection of Biofilm Formation on Coated Medical Devices for the Reduction and Interception of Bacterial Infections Prof Stephen Morgan, University of Nottingham, UK</p>
11.50 - 12.10	<p>Volumetric Time-Lapse Imaging of Cell Forces with Optical Coherence Microscopy A/Prof Steven Adie, Cornell University, USA</p>
12.10 - 12.40	Lunch
12.40 - 17.00	<p>Break and Delegate Activities (Bookings Required)</p> <p>Bayseeker Island Bus Tour Departs: 13.45 Rottnest Island Settlement Main Bus Stop Finishes: 15.30 Rottnest Island Settlement Main Bus Stop</p> <p>Rottnest Island: Ship Wrecks & Coral Viewing Tour Departs: 13.00 Finishes: 14.00</p>
17.00 - 18.00	<p><i>Poster Session</i></p> <p>Local Optic Axis Mapping in Bench-Top and Catheter-Based Polarisation-Sensitive Optical Coherence Tomography Mr Qingyun Li, The University of Western Australia, Australia</p> <p>Long Period Grating Optical Fibre Sensors Functionalised with Molecularly Imprinted Polymers for Drugs Detection Dr Sergiy Korposh, The University of Nottingham, UK</p> <p>Multiplexing in Vivo Optical Imaging using Luminescence Lifetimes Dr Yiqing Lu, Macquarie University, Australia</p>

New Opportunities at the Crossroads of Photoacoustics and Plasmonics

Dr Fulvio Ratto, National Research Council, Italy

Nonlinear Optogenetic Stimulation of Induced Pluripotent Stem Cell Derived Cardiomyocytes

Ms Maria Leilani Torres, Gottfried Wilhelm Leibniz University Hannover, Germany

Optical Coherence Tomography Angiography for Imaging Cutaneous Microvasculature

Dr Peijun Gong, The University of Western Australia, Australia

Optical Properties of the Lens are Actively Maintained by its Microcirculation System

Dr Ehsan Vaghefi, University of Auckland, New Zealand

Polarisation-Sensitive OCT for Imaging Collagen Fiber Organisation in Human Oral Mucosa

Dr Julia Walther, TU Dresden, Germany

Structure-Function Characterisation of Cone Photoreceptor Cells in the Human Retina

Dr Danuta Sampson, University of Surrey, UK

Sub-Diffraction Imaging using Upconversion Nanoparticles

Dr Martin Ploschner, Macquarie University, Australia

Ultrasound Mediation of Light-Emitting Probes to Improve Spatial Resolution in Deep Tissue Imaging

Mr Junaid Ahmad, The University of Nottingham, UK

Use of Deep Learning for Automatic Detection of Cone Photoreceptors in Flood Illumination Adaptive Optics Ophthalmoscopy

Dr David Alonso-Caneiro, Queensland University of Technology, Australia

Versatile, Monolithic Imaging Probes for Catheter-Based OCT

Dr Karol Karnowski, The University of Western Australia and Polish Academy of Sciences, Poland

18.15 - 19.30

Dinner
Riva Restaurant

	Hot Poster Talks Karma Conference Centre Chair: A/Prof Giuliano Scarcelli
19.45 - 20.00	3D+T Spatio-Temporal Image Correlation Spectroscopy for Flow Mapping of Molecules and Organelles in Live Cells Dr Elvis Pandzic, The University of New South Wales, Australia
20.00 - 20.15	Multiplexing in Vivo Optical Imaging using Luminescence Lifetimes Dr Yiqing Lu, Macquarie University, Australia
20.15 - 20.30	Sub-diffraction Imaging using Upconversion Nanoparticles Dr Martin Ploschner, Macquarie University, Australia
20.30 - 20.45	New Opportunities at the Crossroads of Photoacoustics and Plasmonics Dr Fulvio Ratto, National Research Council, Italy
20.45 - 21.00	In-Situ Quantification of Cellular Nuclear Mechanics with Brillouin Flow Cytometry Mr Jitao Zhang, University of Maryland, USA

Wednesday November 28

Time	
	Morning Session 5 Karma Conference Centre Chairs: Prof Kirill Larin & Prof Stephen Morgan
9.00 - 9.30	Probing the Role of Tissue Biophysics in Metastasis Dr Kandice Tanner, National Cancer Institute, NIH, USA
9.30 - 10.00	From Microdishes to Optic Friendly-Microniches: 3D Micro-Environmental Control Around Single Hepatocytes to Induce Apico Basal Polarisation and Lumenogenesis Prof Virgile Viasnoff, National University of Singapore, Singapore
10.00 - 10.15	Morning Tea
	Morning Session 6 Karma Conference Centre Chairs: Prof David Sampson & A/Prof Giuliano Scarcelli

10.15 - 10.45	T Cell Receptor Clustering: A Mechanism of Signal Transduction Prof Katarina Gaus, University of New South Wales, Australia
10.45 - 11.15	High Content Super-Resolution Microscopy Dr David Baddeley, University of Auckland, New Zealand
11.15 - 11.45	A Multi Messenger Microscope using a Liquid and Tunable Approach to Paint Chromatin in Cells Prof Alberto Diaspro, University of Genova, Italy
11.45	Lunch and Conference Close

** Conference Programme is subject to change.*